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ABSTRACT

Data collected from the 1987-88 Schools and Staffing Survey supplied estimates of teacher attrition from public and private schools and from the profession, sources of supply of newly hired teachers, and destinations of attritioning teachers. Findings indicate that: (1) rates of attrition in public schools do not vary as greatly from the national average as those of private schools when examined by the selected characteristics; (2) nationally, attrition from private schools is higher than from public schools, and in both sectors, attrition is higher in elementary than in secondary schools; (3) attrition increases with school size increases in both public and private schools, and it is highest in alternative and special education schools in both sectors; and (4) attrition increases as the percentage of minority students in the student body increases. Findings on destinations of teachers reported as leaving schools indicate: the majority of teachers who leave positions in one school move to other teaching positions, and 40 percent of public school leavers and 43.8 percent of private school leavers are reported in nonteaching activities. Newly hired teachers either transfer from other schools, have not taught before, or are reentering the profession. (IAH)

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Teacher Turnover: Patterns of Entry To and Exit From Teaching

A Presentation to the 1990 Annual Meeting of the American Educational Research Association

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Introduction

The data for this paper were collected in 1987-88 from the new NCES Schools and Staffing Survey. Although the results presented here have undergone initial review, they should be viewed as preliminary since it is possible that additional processing to adjust weights may be done. We believe that the general patterns presented here will continue to hold when the data are finalized, but individual numbers may change.

The Schools and Staffing Survey (SASS) is an integrated survey of public and private schools, school districts, principals, and teachers; the central purpose of which is to measure components of teacher supply and demand.

One of the largest components of demand for newly hired teachers each year is teacher attrition. At the school level this includes hiring teachers to replace those who left in the previous year, both those who transfer to other schools and those leave the teaching profession. At the national level, given the transfer of teachers between schools, total demand for newly hired teachers increases only by the attrition of teachers from the profession. For the purpose of this paper, attrition is defined in two ways: the broader definition is **attrition from schools**, i.e. the rate at which teachers leave teaching positions in schools both to teach elsewhere and to leave teaching; and the stricter definition is **attrition from the profession**, i.e. the rate at which teachers leave teaching positions for other nonteaching activities. Both types of attrition drive demand for new hires at the school level, but only attrition from the profession increases the total demand for teachers nationally.

To understand the supply side, and the extent to which demand for teachers is met, we need to estimate the rates at which teachers are retained from year to year, and the rates at which new teacher hires enter from various sources. Sources of new hires include first time teachers, transfers from other schools, and former teachers who are reentering the profession from the reserve pool. The term **teacher turnover** is used in this paper to describe both rates and sources of new hires (or additions), as well as the rates and destinations of those who leave (separations). Thus, though we cannot with these survey data estimate the size of the reserve pool, we can estimate rates of entry from it and exit to it.

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Attrition from schools is of interest because it can describe the dynamics of the teacher labor market in terms of the incentives and disincentives which may pull and push teachers from one set of workplace conditions to another, perhaps ultimately into or out of the teacher workforce. In addition, the relative stability or instability of the teaching staffs in schools is an important aspect of school environments which may vary across different types of schools (e.g. according to their urbanicity and minority status).

Measurement of attrition from the profession is important in understanding current supply and demand conditions, and in projecting demand for teachers in future years. Current and anticipated teacher shortages are more subject to policy intervention if the factors influencing attrition, and the supply sources of new teacher hires are more clearly understood. Important to this understanding are estimates of attrition by teaching field, by teacher demographics, and by geographic location, and rates of entry from and exit to various parts of the teacher reserve pool.

This paper presents estimates of teacher attrition from schools and from the profession, as well as sources of supply of newly hired teachers, and destinations of attriting teachers. The attrition data are based on school reports of the numbers of teachers who left their positions between the 1986-87 and 1987-88 school years and their destinations (see School Survey items 28 and 30 in the appendix), and are subject to verification with forthcoming data from the Teacher Followup Survey, which tracked and surveyed all those teachers who left the profession and samples of those who stayed in their previous positions and of those who moved to other teaching positions. When the Teacher Followup data are available we will also be able to estimate rates of attrition by teaching field and teacher demographics. The data on sources of supply of newly hired teachers, likewise, are based on school reports (see School Survey item 29 in Appendix A), and are also subject to verification against teacher reports of their activities in the previous year. The data presented here, based on school reports, are limited to estimates of attrition by characteristics of the schools from which teachers leave, and are limited to schools' knowledge of the previous year activities of new hires and destinations of those teachers who left.

Selected Findings

Attrition from the profession is operationally defined as the number of teachers holding full time positions last year who are no longer teaching in that school this year minus those who are known to be teaching elsewhere. Table 1 presents numbers and percentage rates of attrition from the profession by sector and the selected school characteristics of level, size, type, percent minority enrollment, geographic region, and urbanicity.

- Nationally attrition from the profession averages 4.1 % in public schools and 8.7% in private schools.

- Rates of attrition in public schools do not vary greatly from the national average when examined by school level, school size, type of school, minority status, geographic region, or urbanicity.

- In private schools, rates of attrition are slightly more variable across school characteristics, particularly across schools of different size, where attrition is higher in smaller schools (13.2% in schools with less than 150 students) than in larger schools (6.2% in schools with more than 750 students).

Attrition from schools is operationally defined as the number of teachers holding full time positions last year who are no longer teaching in the same school this year. This definition includes teachers who have moved to teaching positions elsewhere, plus those who have left the profession (above), plus those whose status is unknown to the school. Table 2 presents the numbers and percentage rates of attrition from public and private school by the same selected school characteristics as Table 1.

- Nationally, attrition from schools averages 9% in public schools and 17.1% in private schools.

- Attrition is higher in elementary than in secondary schools in both public and private sectors (10% in elementary vs. 8% in secondary public schools, and 19% vs. 14% respectively in private schools)

- Attrition increases as school size decreases in both public and private schools. In the smallest public schools attrition is 12.9% compared with 8.3% in the largest. In the smallest private schools attrition is 23.6% compared with 11.3% in the largest schools.

- Attrition is highest in alternative and special education schools in both public private sectors (10.6% and 9.7% respectively for public alternative and special education schools; and 18.3% and 18.1% for private); and lowest in public public vocational schools (7.5%) and in private special emphasis schools (13.5%).

- Attrition increases as % minority of the student body increases (from 7.4% in public schools with less than 5% minority enrollment to 10.5% in schools with 50% or more; and from 15% to 19.8% respectively in private schools).

- Attrition is higher in public schools in the South (10.3%) and and West (10.1%) than in other regions, and in private schools it is higher in the Northeast (17.9%) and the West (19.4%).

- Attrition does not vary greatly by urbanicity of school.

Schools are asked to report the destination or current primary activity of each teacher reported as leaving the school in the last year. Destinations are teaching elsewhere, non-teaching activities including attending college, working in other nonteaching occupations, homemaking or childrearing, retired, deceased, disabled, on leave of absence or in other known status; and in unknown status. Table 3 presents the distribution of teachers who left across these destination categories.

- The majority of teachers who leave teaching positions in one school move to other teaching positions (54.5% of public school leavers and 49.2% of private school leavers).

- Forty % of public school leavers and 43.8% of private school leavers are reported in non-teaching activities. Another 5.4% of public school leavers and 7.1% of private school leavers are in unknown status. (The attrition from the profession estimates in Table 1 include teachers in both the known non-teaching activities and in unknown status.)

- Of those public school teachers who leave the teaching profession, most retire (38.3%) compared to 7.3% of private school teachers. Of those private school teachers who leave the profession, most are working in other occcupations (37.1%) compared to 18.7% of public school teachers who have left the profession. Private school teachers are more likely to leave the profession for homemaking/childrearing (26.9%) than public school teachers (13.2%). (Note that these percentages do not match those reported in Table 3 because because they are based on only those teachers who left the profession rather than all teachers who left schools.)

In addition to reporting the destinations of teachers who leave, schools are asked to report the source of supply of newly hired teachers. Source of supply is defined as the primary activity of the teacher the year before being hired at that school, and includes first time teachers; experienced teachers who transferred from other schools, and reentrants (from various parts of the reserve pool); and those whose teaching experience is unknown (see item 29 in Appendix A). Table 4 presents the distribution of newly hired teachers in public and private schools by these sources of supply.

- The largest source of supply of newly hired teachers at the school level is teachers who transfer from other schools (57.2% of public and 46.7% of private newly hired teachers).

- The second largest source of new hires is new teachers who have not taught before (26.4% of public and 30.3% of private new hires).

- The third largest source of new hires is former teachers who are reentering the profession (15.6% of public and 22.9% of private new hires).

- Among both public and private reentrants, the primary sources are homemaking or childrearing (34.1% of all public school and 23.7% of all private school reentrants), transfers from other occupations (26.9% of all public school and 22.1% of all private school reentrants), and colleges or universities (20.1% of public and 19.6% of private reentrants). (Note that these percentages do not match those in Table 4 because they are based on only those teachers reentering the profession rather than all new hires.)

TABLES

Table 1.--Teacher attrition from the profession in public and private schools by selected characteristics: United States, 1987-88.

School Characteristic	Public school teachers		Private school teachers	
	Total	Percent	Total	Percent
Total	89,325	4.1%	27,772	8.7%
School level				
Elementary	51,914	4.2%	14,326	9.3%
Secondary	32,861	4.0%	3,986	6.8%
Combined/other	4,549	4.0%	9,460	8.8%
School size				
Less than 150	3,268	5.2%	9,741	13.2%
150 - 299	9,030	4.5%	7,862	8.4%
300 - 499	21,897	4.2%	4,520	6.9%
500 - 749	22,169	3.8%	2,845	6.7%
750 +	32,961	4.1%	2,804	6.2%
Type of school				
Regular	78,940	4.1%	21,557	8.7%
Special emphasis	4,933	4.0%	1,790	7.4%
Special education	705	3.4%	634	6.0%
Alternative	779	4.0%	1,170	10.9%
Voc/tech	1,506	5.0%	--	--
Other	2,462	4.5%	2,594	9.6%
Percent minority				
Less than 5%	24,340	3.6%	10,446	7.6%
5 to 14%	17,091	4.2%	8,648	10.4%
15 to 49%	24,444	4.3%	5,219	8.8%
50% or more	23,450	4.5%	3,459	8.8%
Region				
Northeast	19,092	4.1%	8,246	8.9%
North Central	19,063	4.1%	6,613	7.8%
South	32,440	4.1%	8,151	8.4%
West	18,729	5.0%	4,762	10.2%
Community Type				
Rural/Farming	19,348	3.7%	3,813	10.8%
Small City/town	22,195	4.1%	5,092	8.4%
Suburban	19,394	4.2%	5,987	7.3%
Urban	27,501	4.7%	813	9.0%
Other	887	5.6%	--	--

Note: Teachers include those full time employees whose primary responsibility is teaching (i.e. those who teach half time or more).

-- Too few sample cases for a reliable estimate.

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Table 1b.--Standard Errors for teacher attrition from the profession in public and private schools by selected characteristics: United States, 1987-1988.

School Characteristic	Public school teachers		Private school teachers	
	Total	Percent	Total	Percent
Total	1,862.5	0.8%	905.5	0.2%
School level				
Elementary	1,839.0	0.1%	684.7	0.4%
Secondary	894.5	0.1%	306.3	0.4%
Combined/other	235.4	0.2%	673.9	0.6%
School size				
Less than 150	219.6	0.3%	776.9	0.9%
150 - 299	644.7	0.3%	493.5	0.5%
300 - 499	1,049.7	0.2%	325.8	0.4%
500 - 749	1,286.3	0.2%	349.0	0.6%
750 +	1,025.8	0.1%	400.3	0.6%
Type of school				
Regular	1,969.1	0.9%	928.8	0.3%
Special emphasis	471.2	0.3%	278.3	0.9%
Special education	89.4	0.4%	103.9	0.8%
Alternative	145.0	0.6%	246.9	1.5%
Voc/tech	178.1	0.4%	--	--
Other	325.2	0.4%	360.0	1.0%
Percent minority				
Less than 5%	877.3	0.1%	612.2	0.4%
5 to 14%	929.6	0.2%	650.9	0.6%
15 to 49%	1,172.9	0.2%	448.5	0.6%
50% or more	1,034.2	0.2%	305.9	0.8%
Region				
Northeast	1,143.9	0.2%	779.8	0.7%
North Central	812.0	0.1%	404.7	0.5%
South	1,018.2	0.1%	718.7	0.6%
West	1,004.2	0.3%	370.4	0.7%
Community Type				
Rural/Farming	821.6	0.1%	547.2	1.5%
Small City/town	857.6	0.1%	279.1	0.5%
Suburban	875.5	0.2%	450.0	0.3%
Urban	1,285.3	0.2%	770.0	0.5%
Other	164.5	0.7%	--	--

Table 2.--Teacher attrition rates in public and private schools by selected characteristics: United States, 1987-88

School Characteristic	Public school teachers		Private school teachers	
	Total	Percent	Total	Percent
Total	196,262	9.0%	54,648	17.1%
School level				
Elementary	120,120	9.7%	29,333	19.1%
Secondary	65,673	7.9%	8,170	13.9%
Combined/other	10,470	9.2%	17,145	15.9%
School size				
Less than 150	8,049	12.9%	17,065	23.6%
150 - 299	20,345	10.0%	16,526	17.6%
300 - 499	49,506	9.5%	10,057	15.3%
500 - 749	50,714	8.7%	5,868	13.7%
750 +	67,649	8.3%	5,132	11.3%
Type of school				
Regular	172,585	8.9%	42,879	17.3%
Special emphasis	11,355	9.3%	3,292	13.5%
Special education	2,044	9.7%	1,895	18.1%
Alternative	2,034	10.6%	1,967	18.3%
Voc/tech	2,250	7.5%	--	--
Other	5,994	11.0%	4,574	16.9%
Percent minority				
Less than 5%	50,183	7.4%	20,691	15.0%
5 to 14%	36,173	9.0%	15,564	18.7%
15 to 49%	55,150	9.6%	10,596	17.9%
50% or more	54,757	10.5%	7,797	19.8%
Region				
Northeast	37,181	7.9%	16,476	17.9%
North Central	39,770	7.4%	13,611	16.1%
South	80,486	10.1%	15,514	16.1%
West	38,825	10.3%	9,048	19.4%
Community Type				
Rural/Farming	44,740	8.6%	6,234	17.7%
Small City/town	48,022	8.8%	11,070	18.3%
Suburban	40,245	8.7%	12,318	15.0%
Urban	61,239	9.6%	24,848	17.6%
Other	2,017	12.8%	177	20.6%

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Table 2b.--Standard errors for teacher attrition rates in public and private schools by selected characteristics: United States, 1987-88

School Characteristic	Public school teachers		Private school teachers	
	Total	Percent	Total	Percent
Total	3,086.4	0.1%	1,163.4	0.3%
School level				
Elementary	2,971.0	0.2%	826.9	0.5%
Secondary	1,257.4	0.1%	528.8	0.8%
Combined/other	443.3	0.4%	1,003.5	0.6%
School size				
Less than 150	504.0	0.6%	1,131.2	1.2%
150 - 299	1,169.3	0.4%	886.6	0.6%
300 - 499	1,958.0	0.3%	733.0	0.7%
500 - 749	2,196.9	0.3%	603.8	0.9%
750 +	2,057.1	0.2%	659.9	0.7%
Type of school				
Regular	2,968.3	0.1%	1,093.5	0.4%
Special emphasis	932.1	0.6%	536.3	1.3%
Special education	147.3	0.9%	282.9	1.6%
Alternative	331.0	1.5%	354.1	2.0%
Voc/tech	291.3	0.6%	--	--
Other	915.4	1.4%	548.1	1.3%
Percent minority				
Less than 5%	1,244.6	0.2%	825.1	0.5%
5 to 14%	1,577.1	0.3%	981.6	1.0%
15 to 49%	1,983.8	0.3%	679.9	0.7%
50% or more	1,661.8	0.3%	701.5	1.3%
Region				
Northeast	1,980.6	0.4%	1,091.6	0.8%
North Central	1,147.7	0.2%	655.4	0.7%
South	1,433.6	0.2%	984.2	0.8%
West	1,359.2	0.3%	576.5	1.1%
Community Type				
Rural/Farming	1,323.8	0.2%	739.5	1.7%
Small City/town	1,544.8	0.2%	744.7	1.1%
Suburban	1,473.5	0.3%	976.8	0.6%
Urban	2,296.8	0.3%	1,173.8	0.5%
Other	300.9	1.0%	125.5	11.8%

Table 3. Destinations of attriting teachers by sector: United States, 1987-88.

Destinations	Public		Private	
	Number	Percent	Number	Percent
Total Separations	196,262	100.0%	54,648	100.0%
Teaching elsewhere	106,938	54.5%	26,876	49.2%
Left teaching	78,410	40.0%	23,920	43.8%
(a) Attending college	5,812	3.0%	3,430	6.3%
(b) Working in nonteaching occupation	14,635	7.5%	8,869	16.2%
(c) Homemaking/childrearing	10,385	5.3%	6,425	11.8%
(d) Unemployed and seeking work	3,380	1.7%	1,427	2.6%
(e) Retired	29,998	15.3%	1,755	3.3%
(f) On leave of absence	8,023	4.1%	707	1.3%
(g) Other known status	6,178	3.1%	1,306	2.4%
Unknown status	10,512	5.4%	3,867	7.1%

Table 3b.--Standard errors for destinations of attriting teachers by sector: United States, 1987-88.

Destinations	Public		Private	
	Number	Percent	Number	Percent
Total Separations	3,086		1,163	
Teaching elsewhere	1,769	0.5%	862	1.2%
Left teaching	1,674.9	0.5%	955.4	1.3%
(a) Attending college	366.7	0.2%	380.0	0.6%
(b) Working in nonteaching occupation	555.1	0.3%	636.0	1.1%
(c) Homemaking/childrearing	520.7	0.3%	355.7	0.6%
(d) Unemployed and seeking work	357.4	0.2%	185.5	0.3%
(e) Retired	826.4	0.3%	175.4	0.3%
(f) On leave of absence	528.9	0.2%	119.3	0.2%
(g) Other known status	283.6	0.1%	199.3	0.4%
Unknown status	805.8	0.4%	374.2	0.7%

Table 4. -- Newly hired teachers in public and private schools by source of supply: United States, 1987-88

Source of Supply	Public		Private	
	New hires		New hires	
	Number	Percent	Number	Percent
Total new hires at school level	231,912	100.0%	55,089	100.0%
First time teachers	61,306	26.4%	16,667	30.3%
Continuing teachers (transfers)	132,578	57.2%	25,735	46.7%
Reentrants, who last year were	36,113	15.6%	12,615	22.9%
(a) attending college	7,260	3.1%	2,479	4.5%
(b) working in a nonteaching occupation	7,994	3.4%	3,393	6.2%
(c) homemaking/childrearing	8,558	3.7%	4,308	7.8%
(d) unemployed and seeking work	3,020	1.3%	677	1.2%
(e) retired	848	0.4%	266	0.5%
(f) on leave of absence	3,744	1.6%	154	0.3%
(g) other & unknown	4,689	2.0%	1,339	2.4%
Teachers of Unknown status	957	0.4%	274	0.5%

Table 4b. -- Standard errors for newly hired teachers in public and private schools by source of supply: United States, 1987-88

Source of Supply	Public		Private	
	New hires		New hires	
	Number	Percent	Number	Percent
Total new hires at school level	3,271.2	--	1,408.5	--
First time teachers	1,007.6	0.5%	743.6	1.2%
Continuing teachers (transfers)	2,712.0	0.6%	939.525	1.5%
Reentrants who last year were	1,018.9	0.4%	661.7	1.0%
(a) attending college	427.3	0.2%	245.5	0.4%
(b) working in a nonteaching occupation	395.9	0.2%	262.0	0.5%
(c) homemaking/childrearing	334.3	0.1%	327.3	0.6%
(d) unemployed and seeking work	224.7	0.1%	205.2	0.4%
(e) retired	116.4	0.1%	88.0	0.2%
(f) on leave of absence	284.2	0.1%	48.0	0.1%
(g) other & unknown	303.2	0.1%	267.4	0.5%
Teachers of unknown status	243.0	0.1%	118.8	0.2%

Technical Notes

The data for this paper were collected on the Public and Private School Questionnaire, one of our questionnaires comprising the 1987-88 Schools and Staffing Survey (SASS), a survey developed by the U.S. Department of Education's National Center for Education Statistics (NCES), and conducted by the U.S. Bureau of the Census.

SASS is a mail survey which collects public and private sector data on the Nation's elementary and secondary principals, teachers, schools, and school districts. Its purpose is to assess teacher supply and demand, characteristics of the teacher and principal workforce, and school policies, programs, and conditions. The questionnaires comprising SASS are:

1. the Teacher Demand and Shortage Questionnaire (for public school districts and private schools);
2. the School Administrator Questionnaire (for public school principals and private school heads);
3. the Public and Private School Questionnaires; and
4. the Public and Private Teacher Questionnaires.

Sample Selection

The questionnaires were administered to linked samples of public and private schools, their principals or heads, their teachers, and associated (public school) districts. The school was the primary sampling unit. Schools were selected from the Quality Education Data (QED) file, stratified by the 50Hstates and the District of Columbia, and then by grade level (elementary, secondary, and combined). Within each stratum schools were sorted by urbanicity, zip code (first two digits), highest grade, and enrollment. For each stratum, schools were selected with probability proportional to the square root of the number of teachers in the school.

For public schools, the QED served as the single sampling frame. For private schools, a dual sample frame was used, the QED and an area frame sample. To improve coverage of private schools the QED was updated with membership lists from 17 private school associations and organizations. The area frame lists were developed through searches in 75 geographic Primary Sampling Units (PSUs), stratified by Census region, SMSA status, and private school enrollment; and selected with probability proportional to the square root of the PSU population. The same stratification and sort variables were used in selecting the private school sample as for the public school sample (i.e. state, grade level, urbanicity, zip code, highest grade, and enrollment) with additional stratification by 13 affiliation groups within each state. Schools in the area frame that could not be contacted to determine number of teachers, were selected with equal probability.

Samples of 9,317 public schools and 3,513 private schools were selected.

Data Collection

The School Surveys were mailed to sampled public and private schools in February 1988. A second form was mailed to all nonresponding schools in March, and a telephone followup of nonrespondents was conducted in April, May and June.

Questionnaire Response Rates

Weighted response rates for the School Questionnaires were 91.9% for public schools and 78.5% for private schools.

Items and Item Response Rates

The Public School Questionnaire is in Appendix A. The data items used in this report are the same for both public and private schools. Those items and their unweighted response rates are:

Data element	Item #	RR	
		Public	Private
School level (elementary, secondary, combined)	2	99.9	99.9
School size (student enrollment)	1a	99.9	99.9
Type of school	3	99.5	99.2
Percent minority (of student body)	9	98.1	99.1
Community type (urbanicity)	5	99.7	99.9
Number of additions and separations	28	99.4	98.9
Sources of newly hired teachers (additions)	29	79.9	78.6
Destinations of leavers (separations)	30	87.3	87.0

Data items on both the Public and Private School Questionnaires were imputed for item nonresponse using a hot deck procedure.

Standard Errors

Estimates presented in this paper are based on samples and are subject to sampling variability. Standard errors were estimated using a balanced repeated replications procedure that incorporates the design features of this complex sample survey. The standard errors provide indications of the accuracy of each estimate. If all possible samples of the same size were surveyed under the same conditions, an interval of 1.96 standard errors below to 1.96 standard errors above a particular statistic would include the universe value in approximately 95 percent of the cases. Standard errors do not, however, take into account the effects of biases due to item nonresponse, measurement error, data processing error, or other systematic error.

Region

The regions reported in these tables are the standard Census Bureau regions, as follows:

Northeast	South	North Central	West
Maine	Delaware	Ohio	Montana
New Hampshire	Maryland	Indiana	Idaho
Vermont	D.C.	Illinois	Wyoming
Massachusetts	Virginia	Michigan	Colorado
Rhode Island	West Virginia	Wisconsin	New Mexico
Connecticut	North Carolina	Minnesota	Arizona
New York	South Carolina	Iowa	Utah
New Jersey	Georgia	Missouri	Nevada
Pennsylvania	Florida	North Dakota	Washington
	Kentucky	South Dakota	Oregon
	Tennessee	Nebraska	California
	Alabama	Kansas	Alaska
	Mississippi		Hawaii
	Arkansas		
	Oklahoma		
	Texas		

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For More Information

For information on how to purchase the data tapes for the Schools and Staffing Survey, call Information Services, Office of Educational Research and Improvement, U.S. Department of Education, 1-800-424-1616.

For more information on this report contact Mary Rollefson, Room 308, National Center for Education Statistics, 555 N.J. Ave. N.W., Washington, D.C. 20208; phone 202-357-6336.